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| 10/538,080      | 10/25/2005  | Ryosaku Nakata       | 041094-5028         | 9228             |

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| EXAMINER |
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BAUER, SCOTT ALLEN

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| ART UNIT | PAPER NUMBER |
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2836

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

10/538,080

Applicant(s)

NAKATA, RYOSAKU

Examiner

Scott Bauer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/9/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The specification appears to be a literal translation into English from a foreign document and is replete with grammatical and idiomatic errors. The substitute specification filed must be accompanied by a statement that it contains no new matter. The substitute specification should be drafted to ensure that the reference to specific claims found in pages 3 and 4 of the disclosure be omitted.

3. The title of the invention is not descriptive. A new title is requested that is clearly indicative of the invention to which the claims are directed. The following title is suggested: Device for protection from lightning.

### ***Claim Objections***

4. Claim 2 is objected to because of the following informalities: Claim 2 is rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A proposed correction could be --The thunderbolt disaster protecting apparatus according to claim 1, wherein said switching mechanism can mechanically maintain the normal condition, or the thunderbolt resisting condition, present at the time of change-over even in non-voltage condition. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by JP7-298476.

7. With regard to Claim 1, JP7-298476, in Figure 4, discloses a thunderbolt disaster protecting apparatus comprising: a thunderbolt attack detecting circuit (2) for

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determining whether or not any thunderbolt is approaching by detecting a thunderbolt signal; and a switching mechanism (8 & 9) for changing over to a normal condition in which a protection object device (16) is connected to an electric path (13-15) or a thunderbolt resisting condition in which the protection object device (16) is separated from the electric path, wherein said thunderbolt attack detecting circuit (2) and said switching mechanism (8 & 9) obtain a control power supply from said electric path and said thunderbolt attack detecting circuit changes over said switching mechanism to said normal condition at the time of normal condition and when any thunderbolt is approaching, changes over said switching mechanism to said thunderbolt resisting condition, and said thunderbolt disaster protecting apparatus further comprising a power interruption restoration circuit which after said control power supply is interrupted and then the power interruption is restored, determines whether or not any thunderbolt is approaching in a predetermined time interval and changes over said switching mechanism to said thunderbolt resisting condition if a thunderbolt is approaching and to said normal condition if the condition is normal (See abstract).

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by JP9-331627.

9. With regard to Claim 1, JP9-331627, in Figure 1, discloses a thunderbolt disaster protecting apparatus comprising: a thunderbolt attack detecting circuit (7) for determining whether or not any thunderbolt is approaching by detecting a thunderbolt signal; and a switching mechanism (15 & 16) for changing over to a normal condition in

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which a protection object device (31) is connected to an electric path (L11) or a thunderbolt resisting condition in which the protection object device (31) is separated from the electric path, wherein said thunderbolt attack detecting circuit (7) and said switching mechanism (15 & 16) obtain a control power supply from said electric path and said thunderbolt attack detecting circuit changes over said switching mechanism to said normal condition at the time of normal condition and when any thunderbolt is approaching, changes over said switching mechanism to said thunderbolt resisting condition, and said thunderbolt disaster protecting apparatus further comprising a power interruption restoration circuit which after said control power supply is interrupted and then the power interruption is restored, determines whether or not any thunderbolt is approaching in a predetermined time interval and changes over said switching mechanism to said thunderbolt resisting condition if a thunderbolt is approaching and to said normal condition if the condition is normal (See abstract).

10. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Uman (US 4,276,576).

11. With regard to Claim 1, Uman, in Figure 1, discloses a thunderbolt disaster protecting apparatus comprising: a thunderbolt attack detecting circuit (10) for determining whether or not any thunderbolt is approaching by detecting a thunderbolt signal; and a switching mechanism (114) for changing over to a normal condition in which a protection object device is connected to an electric path or a thunderbolt

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resisting condition in which the protection object device is separated from the electric path, wherein said thunderbolt attack detecting circuit (10) and said switching mechanism (114) obtain a control power supply from said electric path and said thunderbolt attack detecting circuit changes over said switching mechanism to said normal condition at the time of normal condition and when any thunderbolt is approaching (column 3 lines 25-34), changes over said switching mechanism (114) to said thunderbolt resisting condition, and said thunderbolt disaster protecting apparatus further comprising a power interruption restoration circuit which after said control power supply is interrupted and then the power interruption is restored, determines whether or not any thunderbolt is approaching in a predetermined time interval and changes over said switching mechanism to said thunderbolt resisting condition if a thunderbolt is approaching and to said normal condition if the condition is normal (column 3 lines 55-68 & column 4 lines 1-25).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP7-298476 as applied to claim 1 above, and further in view of Wynn et al. (US 6,104,583).

14. With regard to Claim 2, JP7-298476 teaches the thunderbolt disaster protecting apparatus according to claim 1.

JP7-298476 does not teach that the switching mechanism can be maintained mechanically the normal condition or the thunderbolt resisting condition of the time of change-over even in non-voltage condition.

Wynn et al., teaches an over current protection system wherein a load is disconnected from a power supply during a fault condition wherein latching relays are used connect and disconnect the circuit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of JP7-298476 with Wynn et al., by replacing the switching means (8&9) of JP7-298476 with a latching relay and driving circuitry taught by Wynn et al., for the purpose of providing low power dissipation when switching the contacts (Wynn et al. column 6 lines 17-24).

15. Claims 3 & 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP7-298476 in view of Toyonaka (US 3,601,618).

With regard to Claim 3, JP7-298476 teaches a thunderbolt disaster protecting apparatus comprising: a thunderbolt attack detecting circuit (2) for determining whether or not any thunderbolt is approaching by detecting a thunderbolt signal; and a switching mechanism (8 & 9) for changing over to the normal condition which a protection object



device is connected to an electric path or to the thunderbolt resisting condition, wherein said thunderbolt attack detecting circuit and said switching mechanism obtain a control power from said electric path and said thunderbolt attack detecting circuit changes over said switching mechanism to said normal condition at the time of normal condition and when any thunderbolt is approaching, changes over said switching mechanism to said thunderbolt resisting condition.

JP7-298476 does not teach that the protection object device is connected to the electric path through said thunderbolt resisting transformer.

Toyonaka, in Figure 9, teaches a distribution system wherein a transformer (Tr3) is placed between an electrical path (R, S & T) and load (M<sub>1</sub>), wherein the transformer (Tr3) is bypassed when a switch (MS<sub>H</sub>) is opened and another switch (MS<sub>L</sub>) is closed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of JP7-298476 with Toyonaka, by placing the transformer (Tr3) and switch (MS<sub>H</sub>) in parallel with the switching device (8 & 9), for the purpose of compensating for different impedances of different protected devices.

16. With regard to Claim 4, JP7-298476 discloses the thunderbolt disaster protecting apparatus of Claim 3. JP7-298476 further discloses that the thunderbolt attack detecting circuit further comprises a power interruption restoration circuit which after said control power supply is interrupted and then the power interruption is restored, determines whether or not any thunderbolt is approaching predetermined time interval and changes over said switching mechanism to said thunderbolt resisting condition if a

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thunderbolt is approaching and to said normal condition if the condition is normal (See Abstract).

### ***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Young (US 5,521,603) teaches an incipient lightning detection and device protection circuit wherein a lightning detection circuit disconnects power from a load when lightning is near and further teaches a timer to reconnect the circuit once the lightning threat has passed.

Young (US 5,721,659) and Storey (US 6,011,682) teach devices for protecting electrical and electronic equipment to disconnect electrical equipment from a power mains when lightning is present.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Bauer whose telephone number is 571-272-5986. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**PHUONG T. VU**  
**PRIMARY EXAMINER**